ABSTRACT

FREQUENCY CONTENT SEPARATION USING COMPLEX FREQUENCY SHIFTING CONVERTERS

A frequency separating system is described utilising tuneable frequency shifting complex converters in which the centre frequency of the band extracted and the bandwidth extracted can be varied depending upon the parameters chosen by the user. A single output band may contain multiple target carrier signals for separation using fine-tuning shaping filters. The local oscillators provide a stream of coefficient values for multiplying the digital signal sample values to perform part of the frequency extraction operation. These local oscillators may be numerically controlled oscillators with the stream of generated co-efficient values being selected from different sets of such coefficient values depending upon the desired frequency extraction.

[Figure 6A]